Summary of Radiological Survey and Monitoring Conducted at 160 East Illinois Street, Chicago, Illinois

GeoSyntec Project No. C11E8164

Introduction

The subject site is located at 160 East Illinois Street, at the northwest corner of Illinois Street and St. Clair Street, in Chicago, Illinois. The site formerly was occupied by a six-story structure with one level of basement. That building has been demolished with the exception of the perimeter foundation walls for the basement.

The site is immediately adjacent to and across an alley from a former industrial building, formerly occupied by Lindsay Light and Chemical Company. The Lindsay Light Building, to the north, was used for the manufacture of gas light mantles. That process utilized thorium compounds in the manufacturing process. Thorium is a radioactive element. Several properties in the vicinity have been found to be radiologically impacted apparently as a result of Lindsay Light activities.

When the subject site building was initially beginning demolition, the USEPA requested the site be surveyed for radiological impacts. Additionally, the USEPA requested that the demolition operations be monitored for radiological impacts in any fugitive dust from the site. Following the removal of the building and demolition debris, geotechnical engineering borings were drilled through the floor slab. The cuttings from these borings were screened for elevated radioactivity until the cuttings were apparently from natural soils. The basement floor was surveyed for elevated radioactivity, and upon removal of column foundation slabs beneath the floor slab, the underlying soil was surveyed. This summary report presents the data collected in those surveys and monitoring, and our conclusions regarding evidence of impacts.

Building Survey Prior to Completion of Demolition

The floors of the building were cleared of debris and rubble and surveyed for elevated radioactivity. At the time of the building survey, a portion of the building, estimated at less than 20 percent had been demolished or was too badly damaged to be safe to survey. The remainder of the building was surveyed in grids approximately 15 feet by 15 feet. The entire grid was surveyed using a Ludlum Model 2221 Scaler Ratemeter with an unshielded 2 x 2 NaI detector. The grids were divided into quarters, and the highest reading in each quarter grid was recorded. Appendix A presents the results of the grid surveys.

In addition to the floors, the walls of the building were surveyed. The walls were surveyed from the floor to a height of approximately 6 feet above the floor. Readings

were recorded for each approximately 7.5 feet length of the wall, approximately equal to the size of the floor survey grid recordings. The wall survey readings are also presented in Appendix A.

The readings found no areas of elevated radioactivity indicative of levels in need of remediation. A background value for the building could not readily be established due to the influence of the brick exterior of the building. Two spots were noted in the floor surveys where readings were somewhat above the surrounding floor readings. Those readings were 13,600 and 12,500 CPM on the second and sixth floors, respectively. The reading for the equipment used in the survey that represents the USEPA specified clean-up threshold of 7.2 picoCuries per gram (pCi/g) total radium (Ra-226 + Ra-228) is 18,500 CPM. The highest readings were correlated to the brick walls around the exterior of the building, where readings exceeded 20,000 CPM in several locations. These results were verbally reported to USEPA.

USEPA visited the site following completion of the survey and conducted verification surveys of several areas of the building, including confirmation of the highest readings found in this and previous surveys. USEPA concurred with the findings and verbal conclusions presented based on these survey results.

In the course of the demolition, several large wood beams were salvaged from the debris. Those beams were transported to the demolition contractor's yard and staged there for subsequent screening. On February 25, 2005, the beams were frisked for elevated radioactivity and cleared. The beams were frisked using a Ludlum Model 2221 with an unshielded 2 x 2 NaI probe. Background readings were in the range of 7-10,000 CPM. No readings were above 13,000 CPM, which is well below the action level of 18,500 CPM. USEPA also visited the contractor's yard, conducted their own survey, and concurred that the beams were cleared and could be released.

Survey of Soil Cuttings

Following removal of the majority of the demolition debris, three geotechnical soil borings were drilled through the basement floor slab. The cuttings and soil samples recovered from the borings were surveyed for elevated radioactivity for the upper approximately 8 feet, until it was obvious from the cuttings and samples that the boring was advanced into natural sand. The cuttings were surveyed using a Ludlum Model 2221 Scaler Ratemeter with an unshielded 2 x 2 NaI detector. Readings ranged from 7,500 to nearly 11,000 CPM. The count rate indicative of a soil clean-up level of 7.2 pCi/g total radium is 18,500 CPM. The results of these surveys of the soil cuttings are included in Appendix B. These data show no results indicating radiologically impacted soils in these borings.

Basement Floor and Sub-Slab Soil Survey Readings

Following the completion of the demolition and removal of the demolition debris, the floor slab of the basement was surveyed for elevated radioactivity. In the course of the

demolition and during the removal of the demolition debris, the basement floor slab was significantly broken-up. The survey was conducted using a Ludlum Model 2221 Scaler Ratemeter with an unshielded 2 x 2 NaI detector. The survey of the slab, prior to removal, found no areas of elevated radioactivity that could not be attributed to naturally occurring radioactivity in brick debris present in the basement or adjacent brick walls. Values measured ranged from as low as 7,800 CPM in areas along the west edge where some foundation slabs remained adjacent to the hotel wall, to as high as 13,000 CPM. The general background appeared to be in the 10,000 to 11,000 CPM range. Data from this floor survey are presented in Appendix C.

Following the survey of the basement floor slab, as the slab was being removed, it was discovered that the majority of the basement was underlain by large, approximately 9-foot by 9-foot, 16-inch thick concrete slabs that formed the footings for the building columns. In consultation with USEPA, it was agreed that upon removal of these slabs, the remaining pits would be surveyed to document the radiological character of the soil beneath the floor slab. The walls and floor of each pit from which a slab was removed was surveyed. As with the floor slab survey, the equipment used was a Ludlum Model 2221 Scaler Ratemeter with an unshielded 2 x 2 NaI detector. The survey of the soil beneath the floor slab and the column footings found no areas of elevated radioactivity indicative of an exceedance of the cleanup criteria established by USEPA. Similar to the floor slab readings, the readings generally ranged from 10,000 to 11,000 CPM, well below the threshold for clean-up of 18,500 CPM. The data from this sub-slab survey is included in Appendix C.

USEPA visited the site during the completion of the floor survey and while the column foundation slabs were being removed. USEPA conducted a verification survey of portions of the basement floor and participated in the initial surveys of the pits resulting from the removal of the column foundation slabs. The verification surveys conducted by USEPA agreed with the results reported herein.

Site Perimeter Air Quality Monitoring

During the building demolition, USEPA requested the site perimeter be monitored for potential radiological impacts to dust from the site. Four high volume samplers were stationed at the site margins. In that the exterior walls remained in place for the majority of the demolition along the north and south margins of the site, the Intercontinental Hotel occupies the western site margin, and the debris loading was conducted at the east end of the site, the air monitoring was concentrated on the open eastern side of the site.

Sampling pumps were positioned at the southeast corner of the site on both the upper and lower levels of Illinois Street. One sampling pump was positioned near the northeast corner of the site at the alley. One sampling pump was positioned near the middle of the east side on the site perimeter fence. The demolition equipment and truck loading resulted in having to close St. Clair Street. As a result, the operating perimeter and site fence were on the east side of the street, and the air monitoring location for the east side of the site was also on the east side of St. Clair Street.

The samples were generally collected each day during the entire time demolition and debris loading operations were conducted. Per agreement with USEPA, sampling was not required during times of rain, as dust suppression was not generally a problem, and sampling during rain events can be detrimental to the sampling equipment.

The samples were read for elevated radioactivity one day after sampling and four days after sampling. The four-day results were used to compare to regulatory limits as these allow for the decay of short-lived decay progeny. No readings above the regulatory limits were detected in the air monitoring results from the site. The air emission criterion is 4 x 10E-15 uCi/ml Th-232. The minimum detectable concentration and air monitoring data are presented in Appendix D.

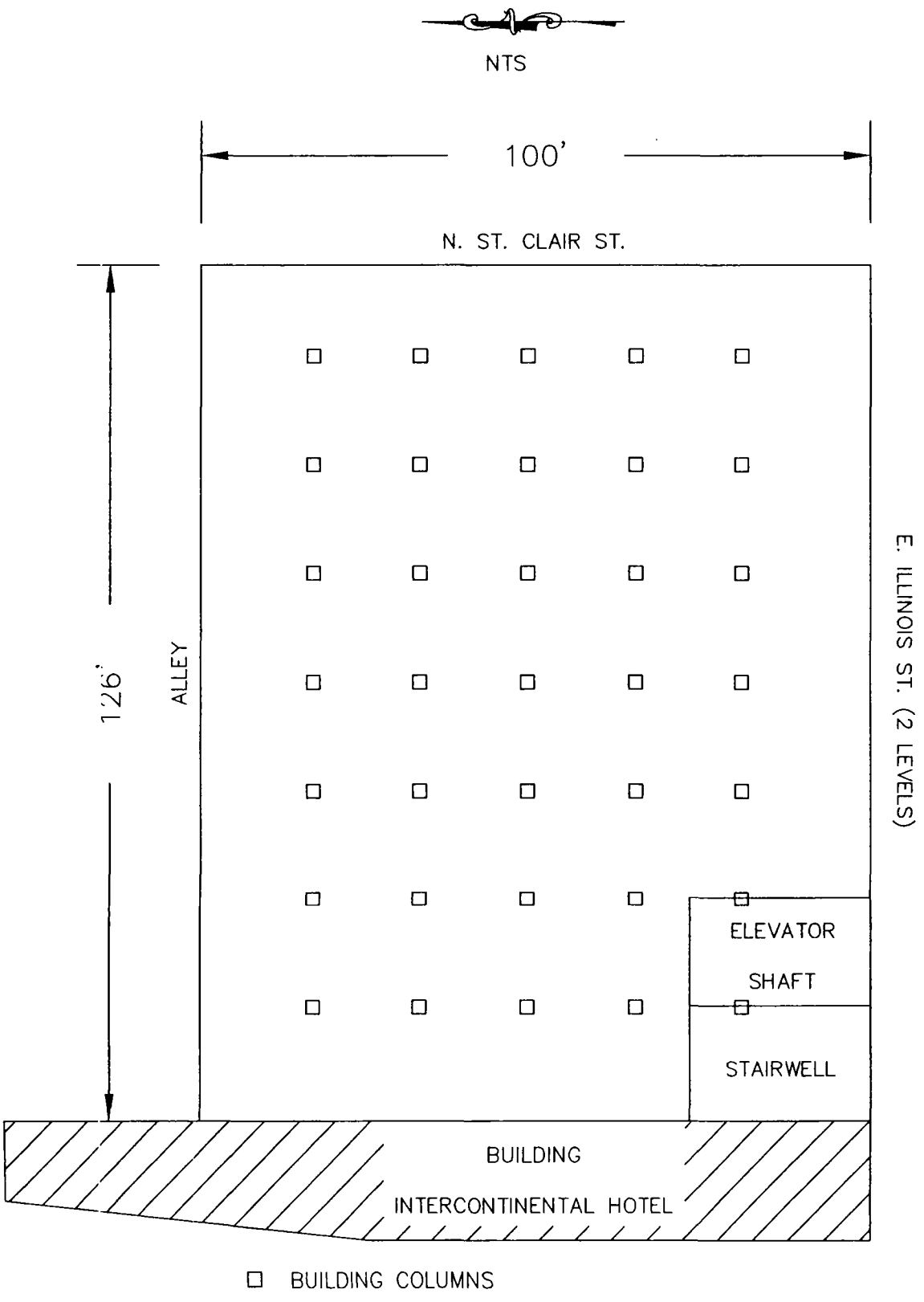
Summary

The data collected to date show no evidence of elevated radioactivity in the building prior to demolition. Surveys of cuttings from soil borings beneath the floor slab including several feet of penetration into natural sand showed no elevated readings of radiologically impacted material. Radiation surveys of the basement floor slab and the soil beneath the slab find no evidence of elevated radioactivity within the building footprint. Air sampling results found no evidence of radiologically impacted dust from the demolition activities.

The verification surveys conducted by USEPA of the building, the basement slab, and the soil beneath the floor slab and column foundation slabs found no evidence of radiologically impacted soil, based on the results communicated during their field visits.

Appendix A

Building Survey Results



APPENDIX A
SITE LAYOUT
160 E ILLINOIS
CHICAGO IL

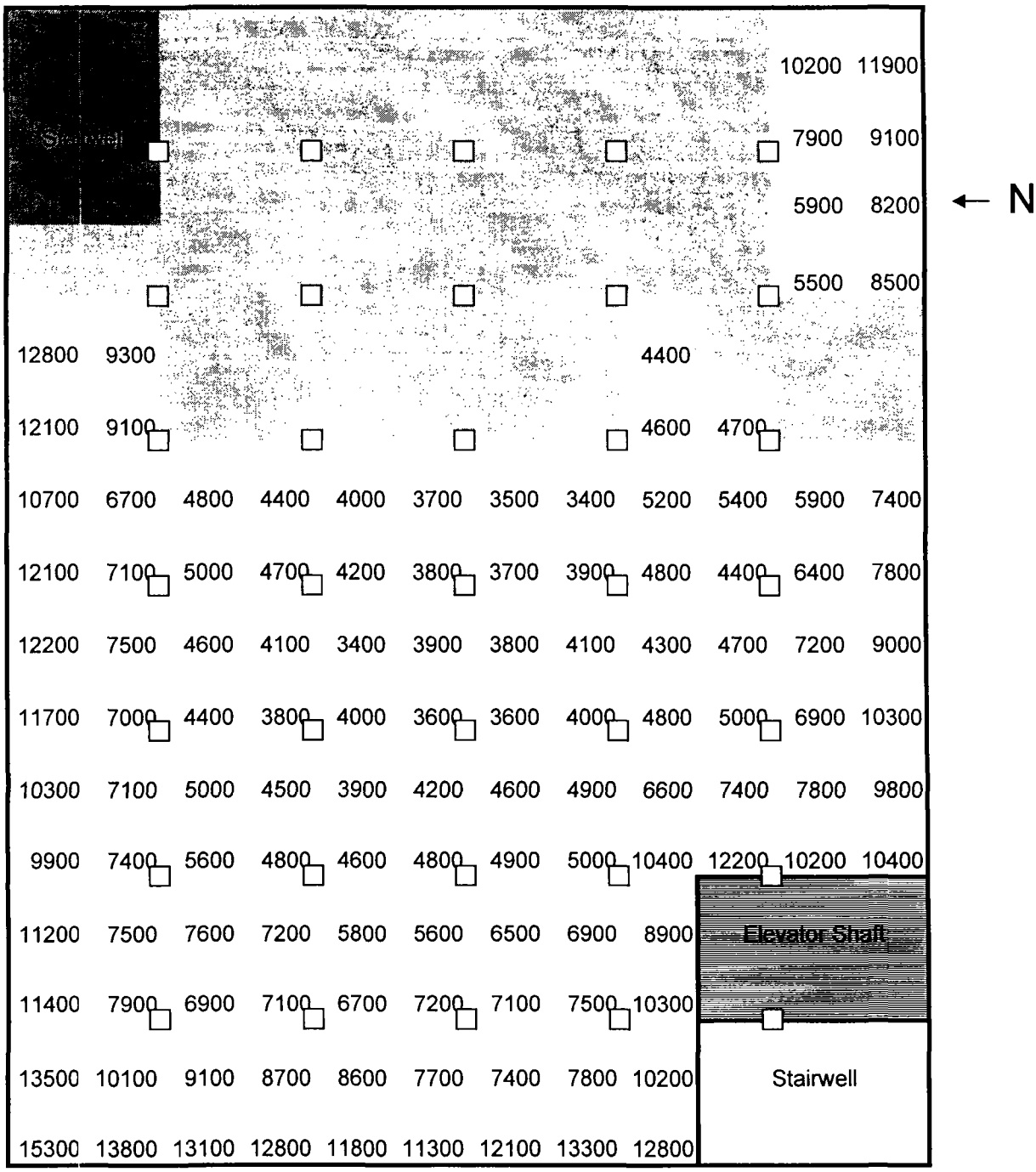
GeoSyntec Consultants

PROJECT NO.:	CHE8164	FIGURE NO.:	APPENDIX_A
DATE:	20/05/2005	FILE NO.:	FILENO

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

1st Floor



= Danger: Inaccessable Area

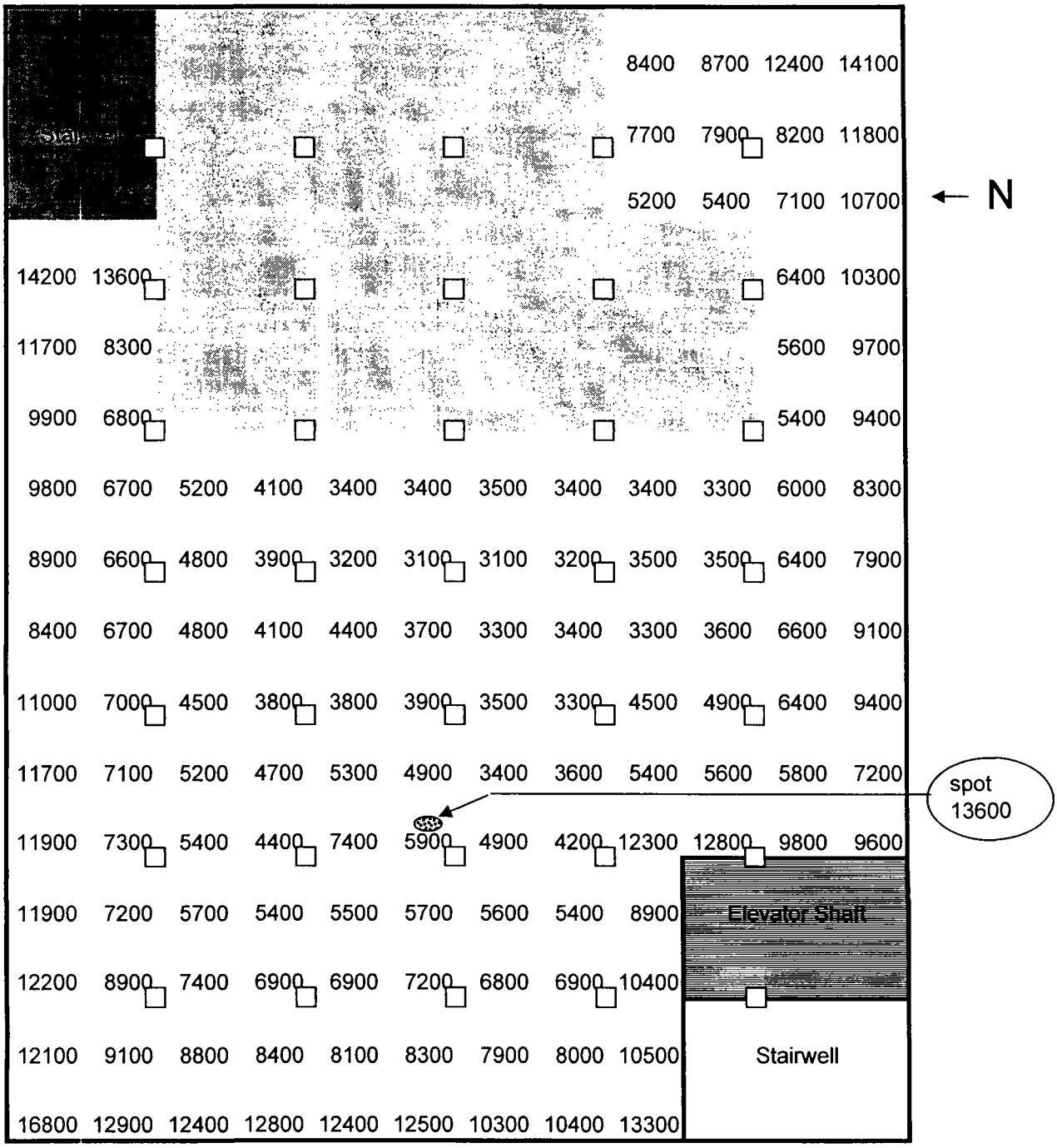
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)

All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

2nd Floor



= Danger: Inaccessable Area

Spot = 17 uR/hr on contact

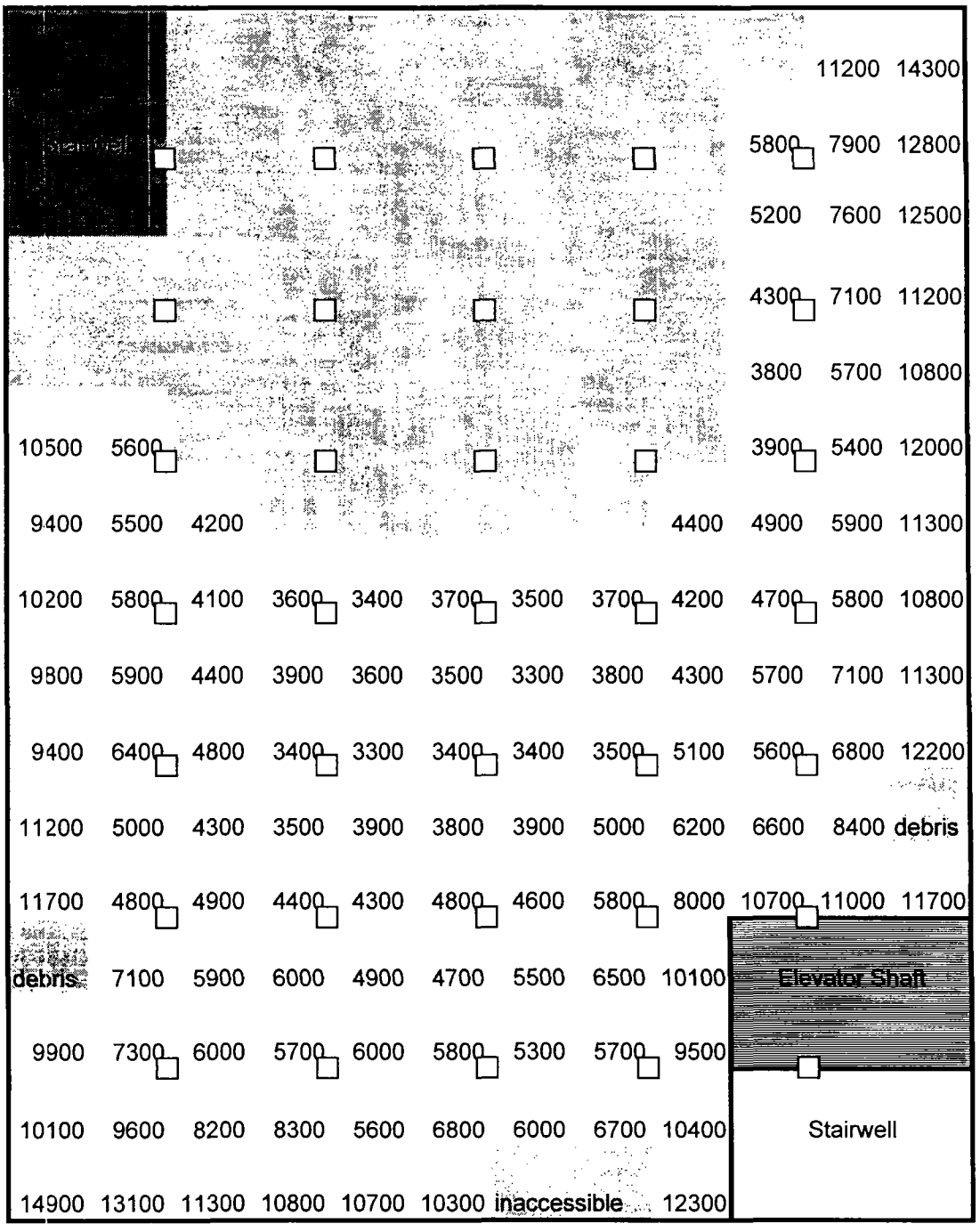
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)

All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

3rd Floor



= Danger: Inaccessable Area

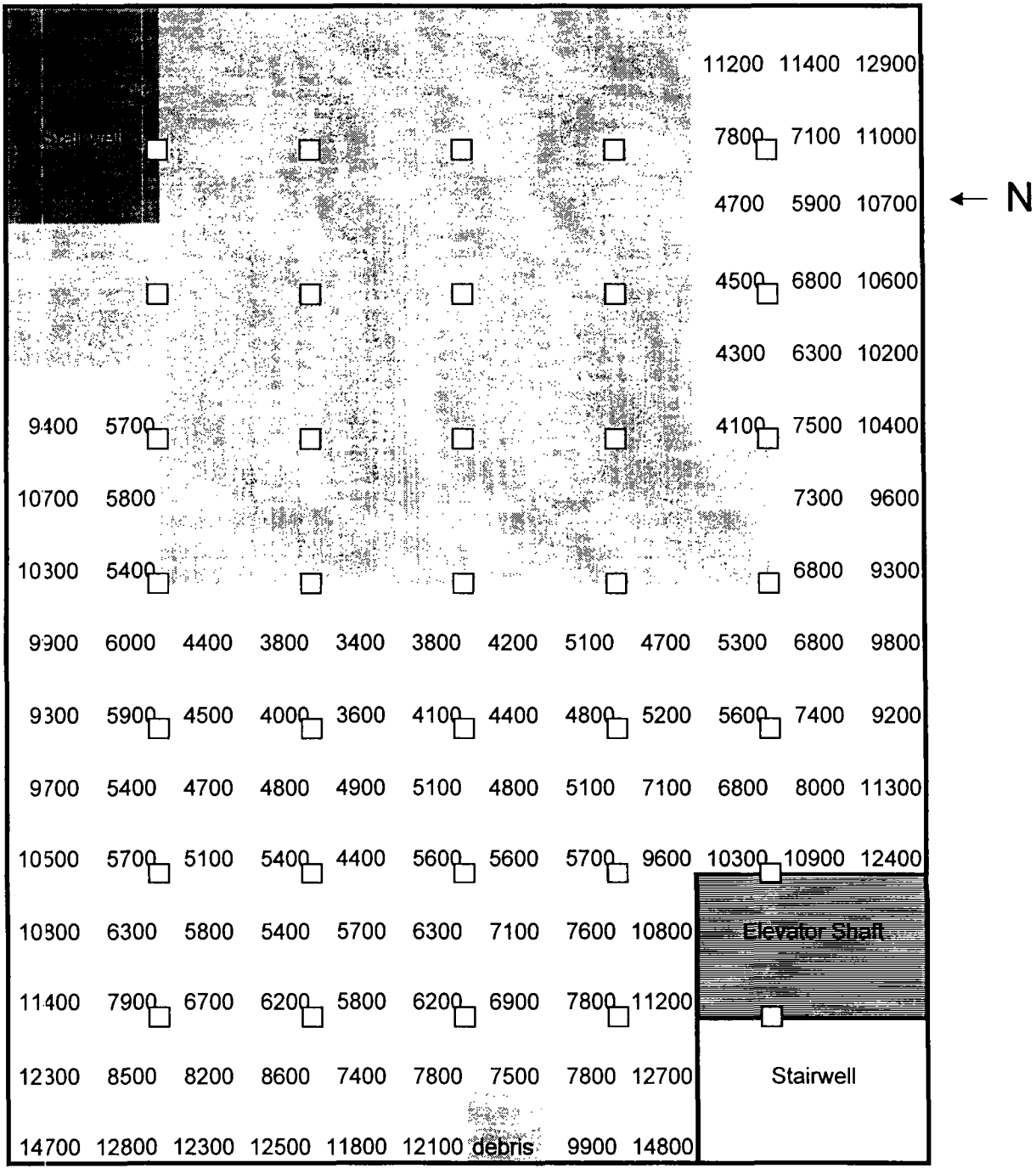
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)

All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

4th Floor



= Danger: Inaccessable Area

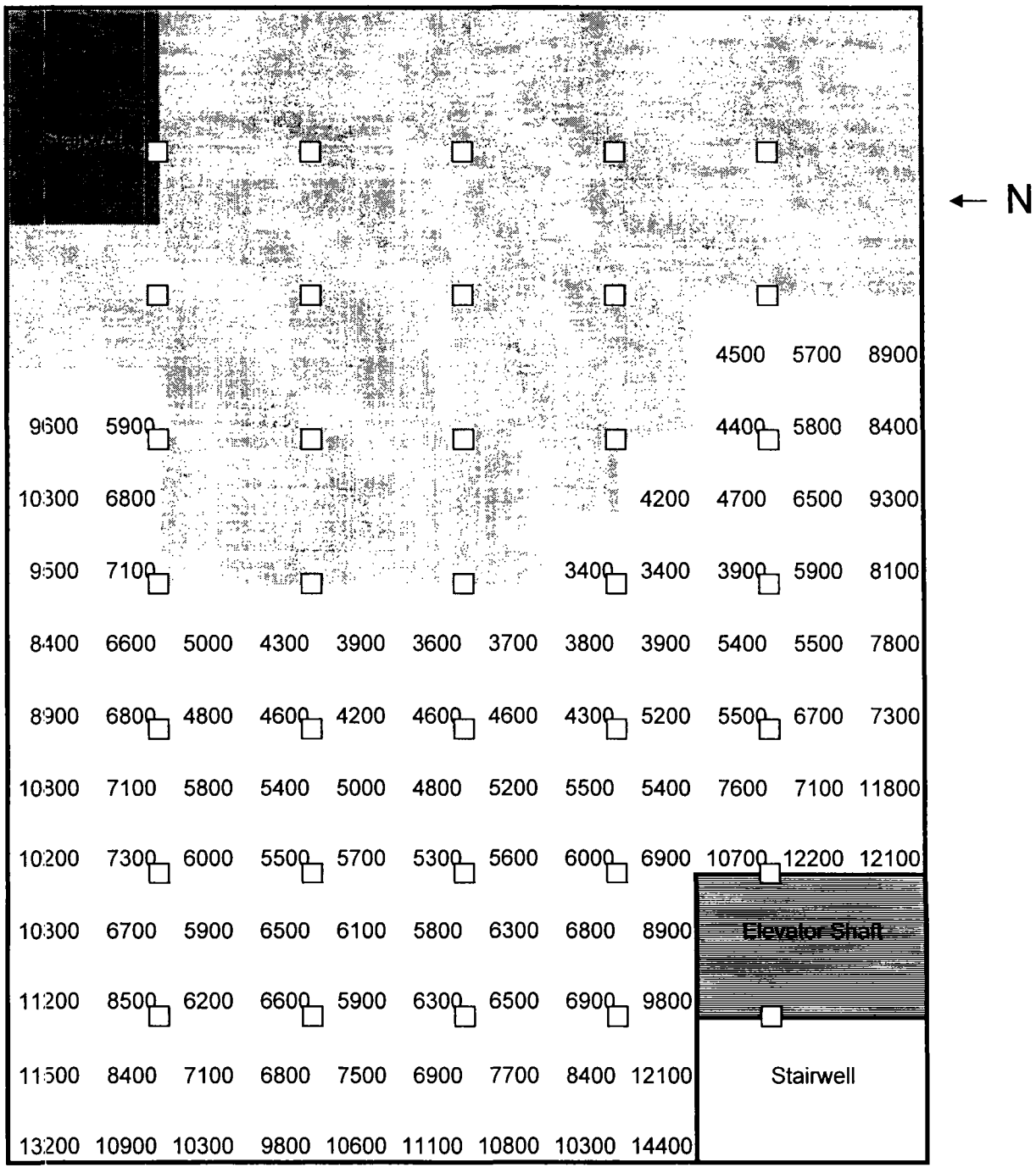
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)

All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

5th Floor



= Danger: Inaccessable Area

Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)

All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
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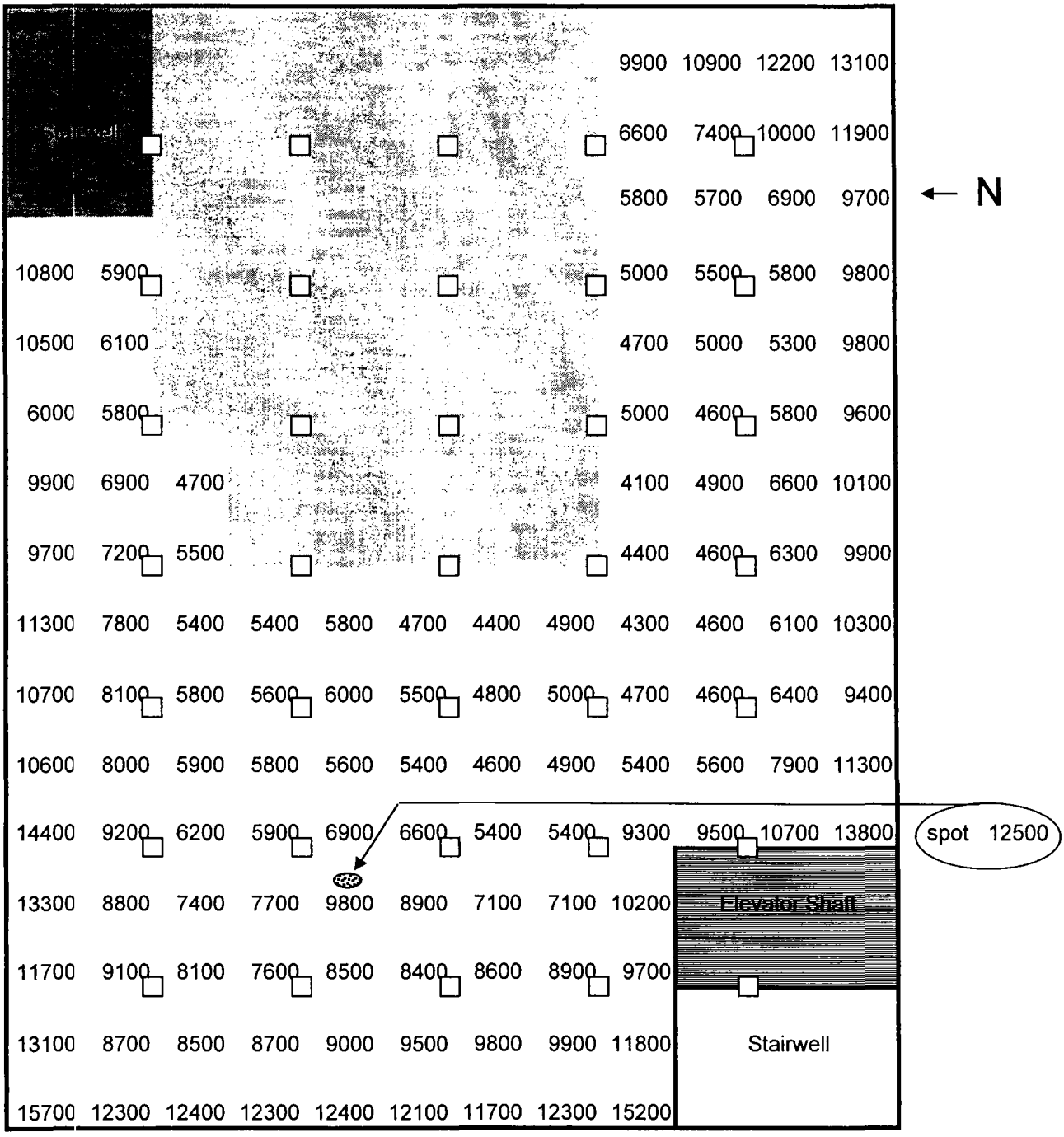
6th Floor



= Danger: Inaccessable Area

spot = 16uR/hr on contact

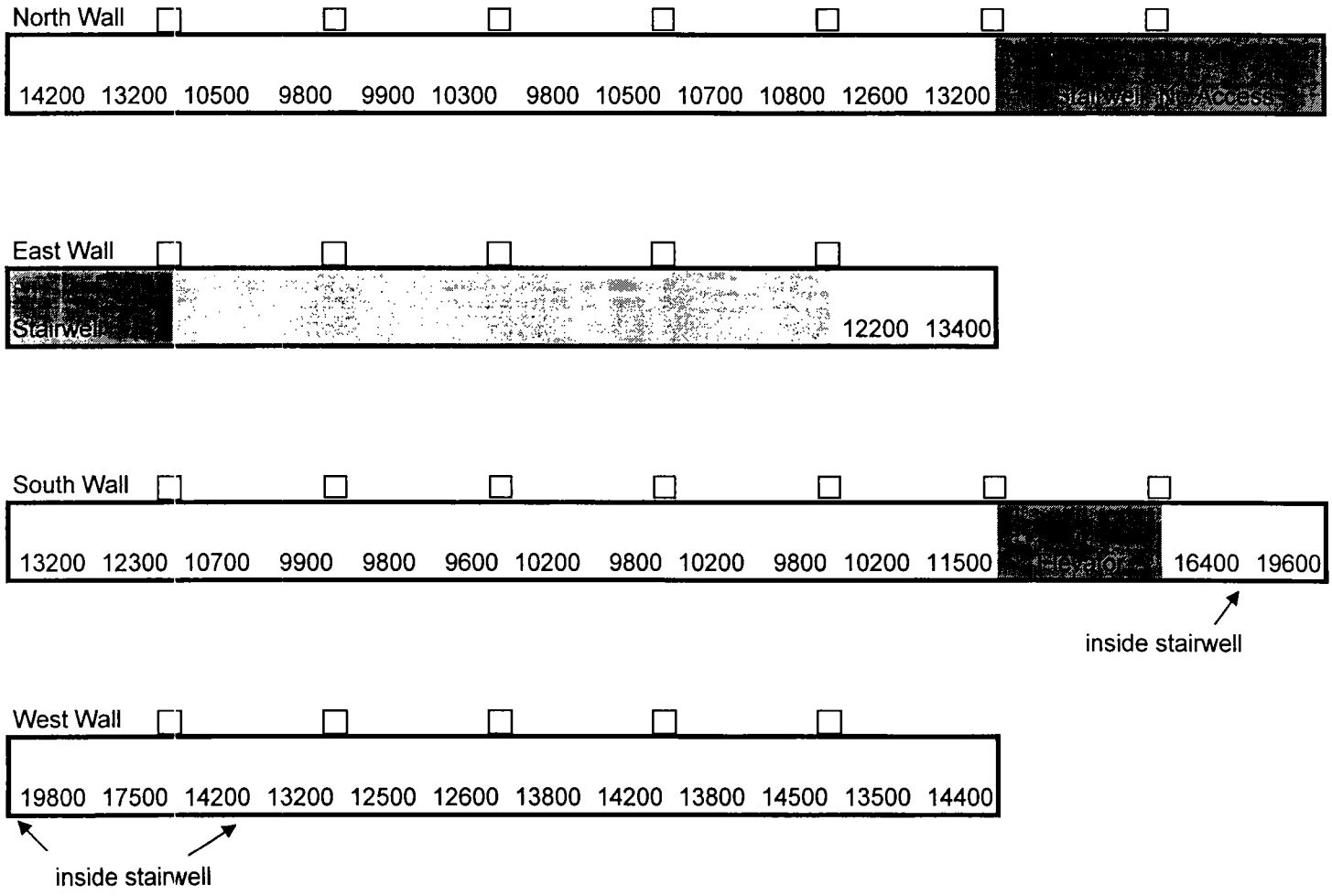
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)

All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

1st Floor Walls



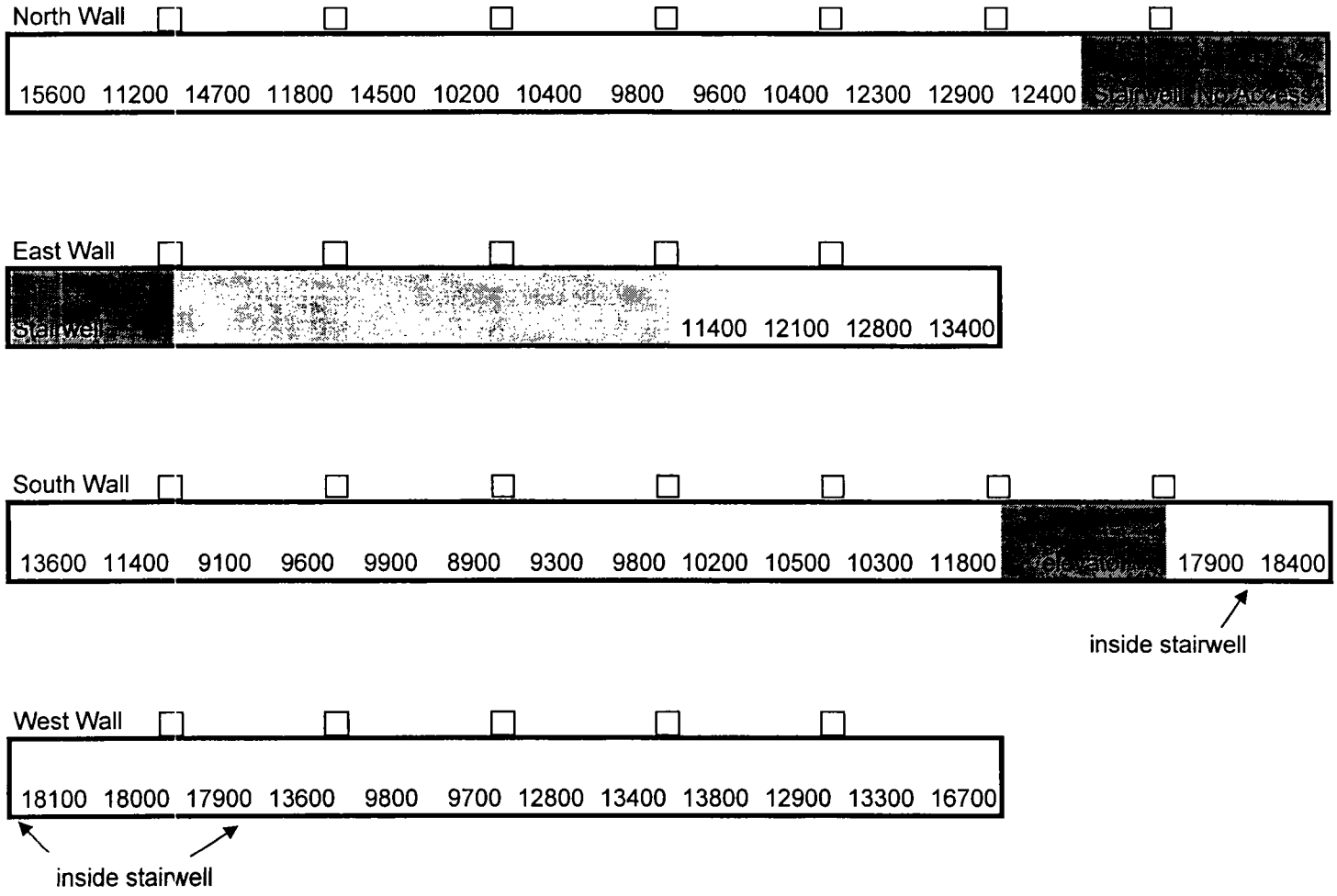
= Danger: Inaccessable Area

Note: Each wall count is recorded as if you are facing the direction of the wall, left to right
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)
All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

2nd Floor Walls



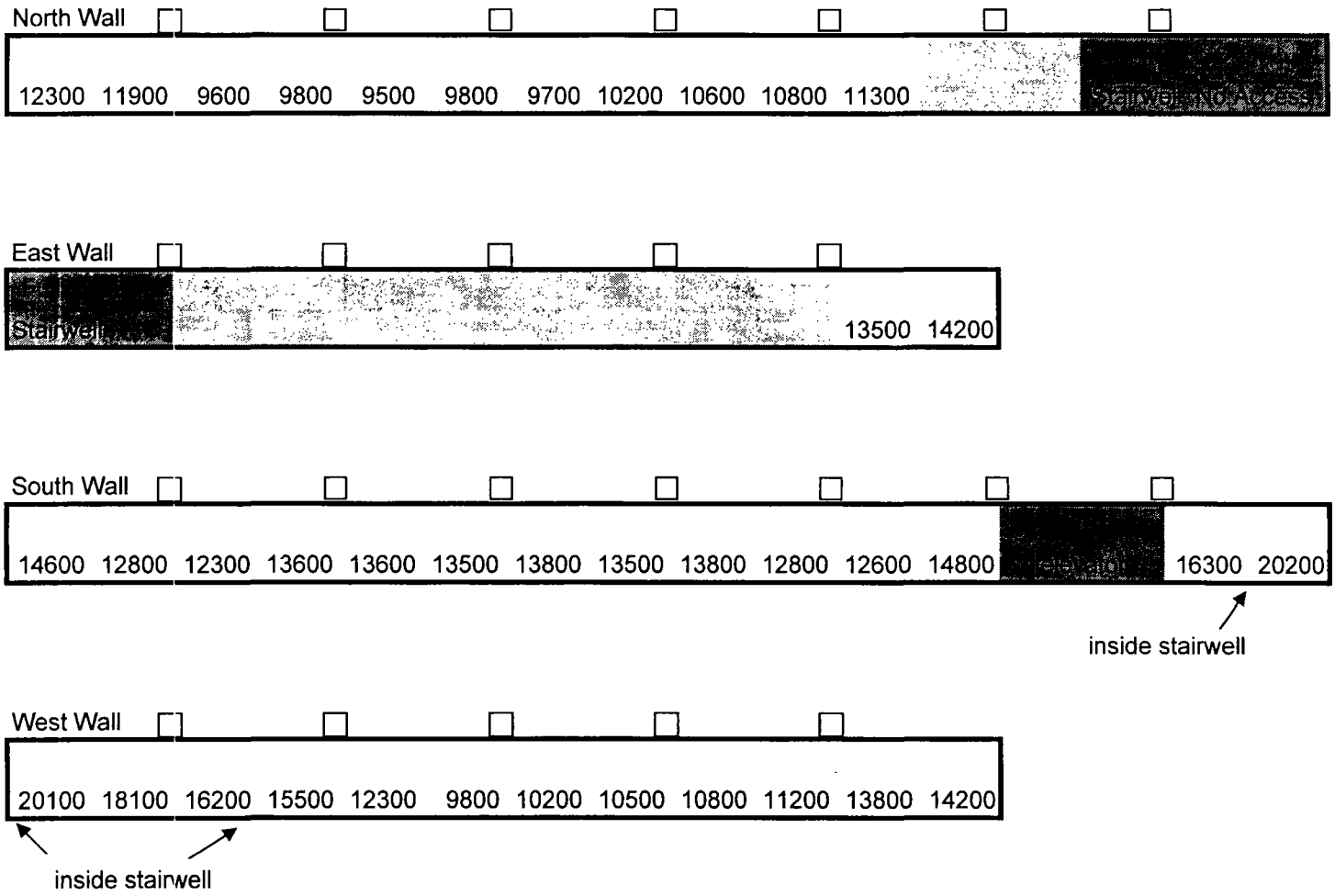
= Danger: Inaccessable Area

Note: Each wall count is recorded as if you are facing the direction of the wall, left to right
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)
All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

3rd Floor Walls



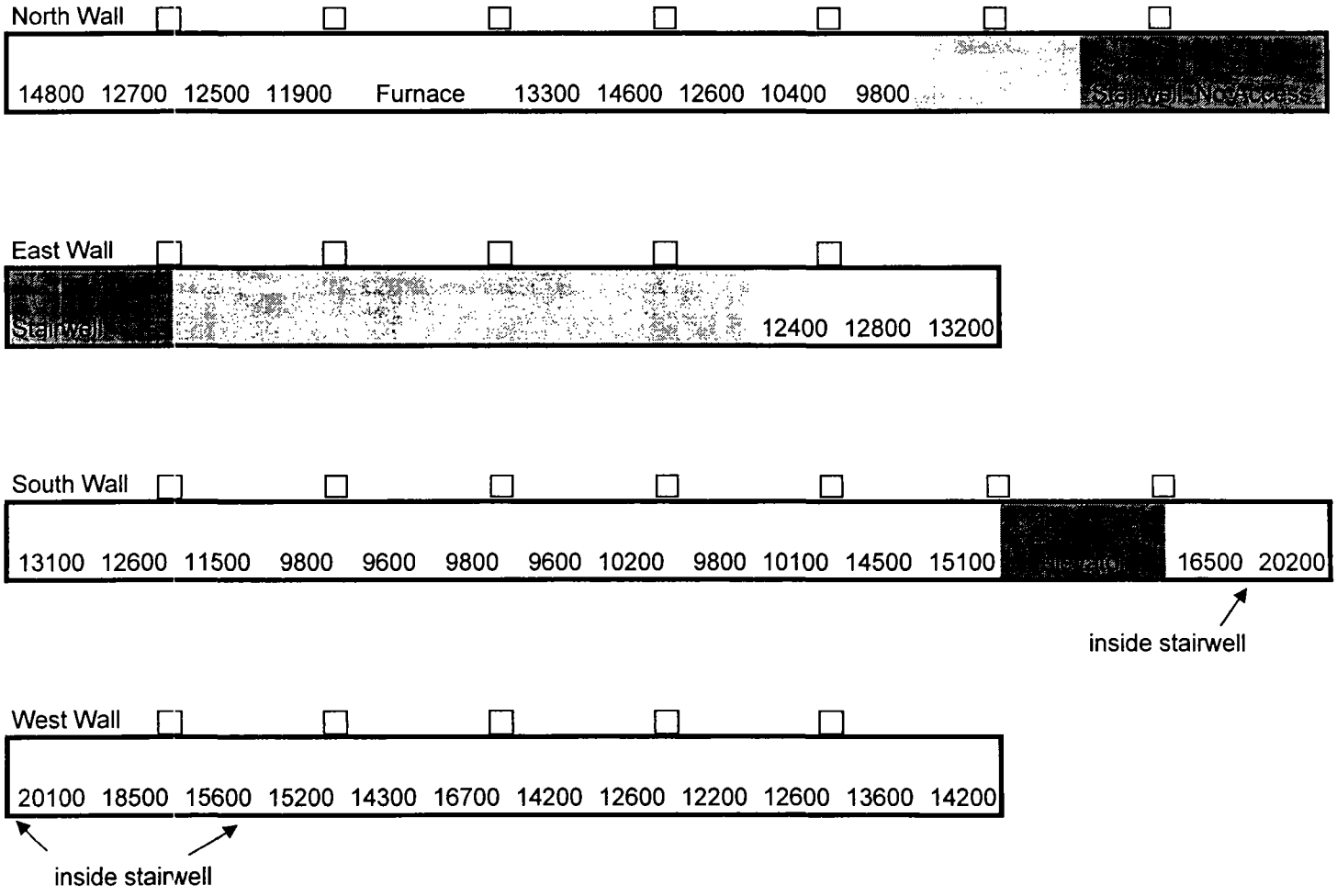
= Danger: Inaccessable Area

Note: Each wall count is recorded as if you are facing the direction of the wall, left to right
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)
All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

4th Floor Walls



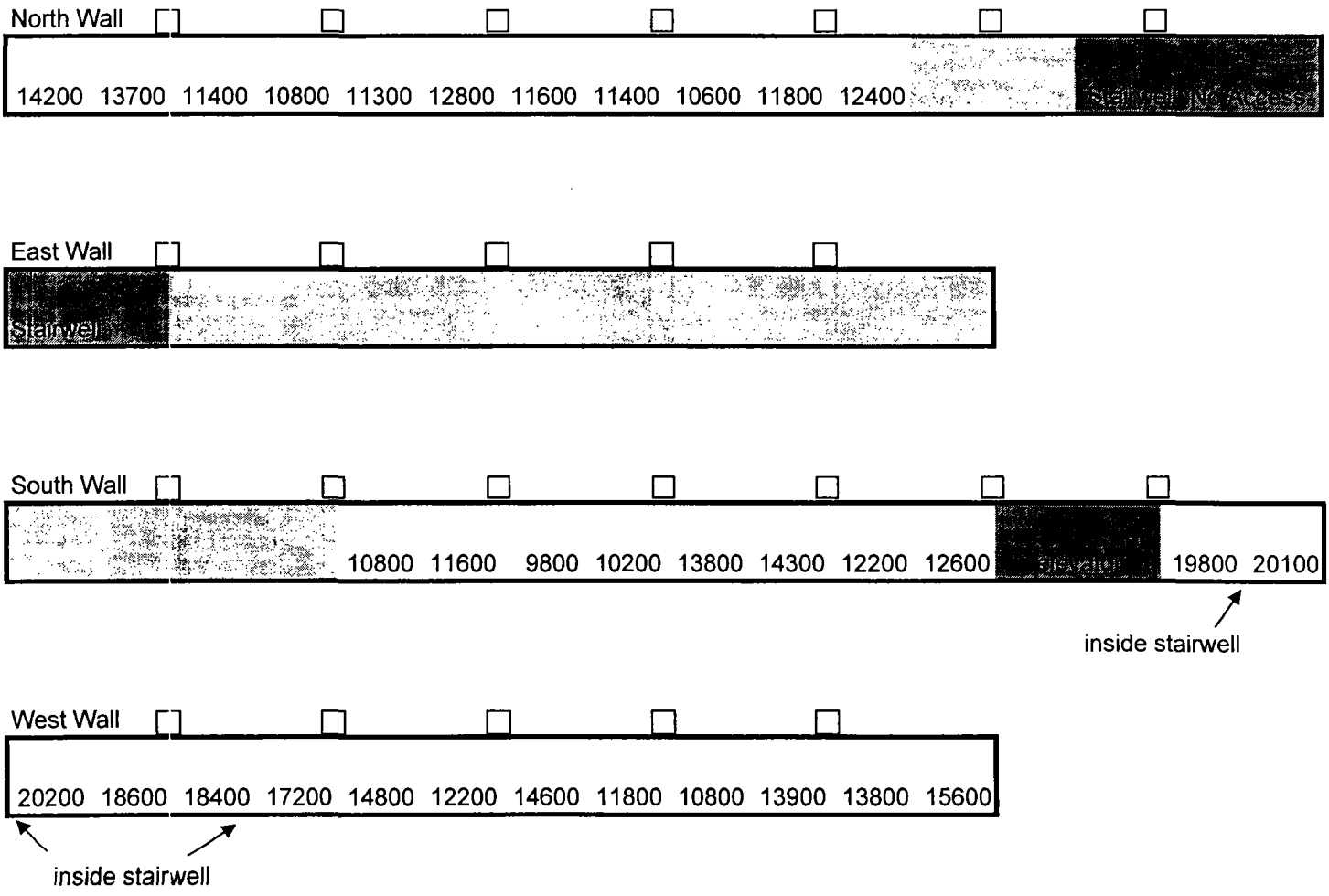
= Danger: Inaccessable Area

Note: Each wa l count is recorded as if you are facing the direction of the wall, left to right
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)
All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

5th Floor Walls



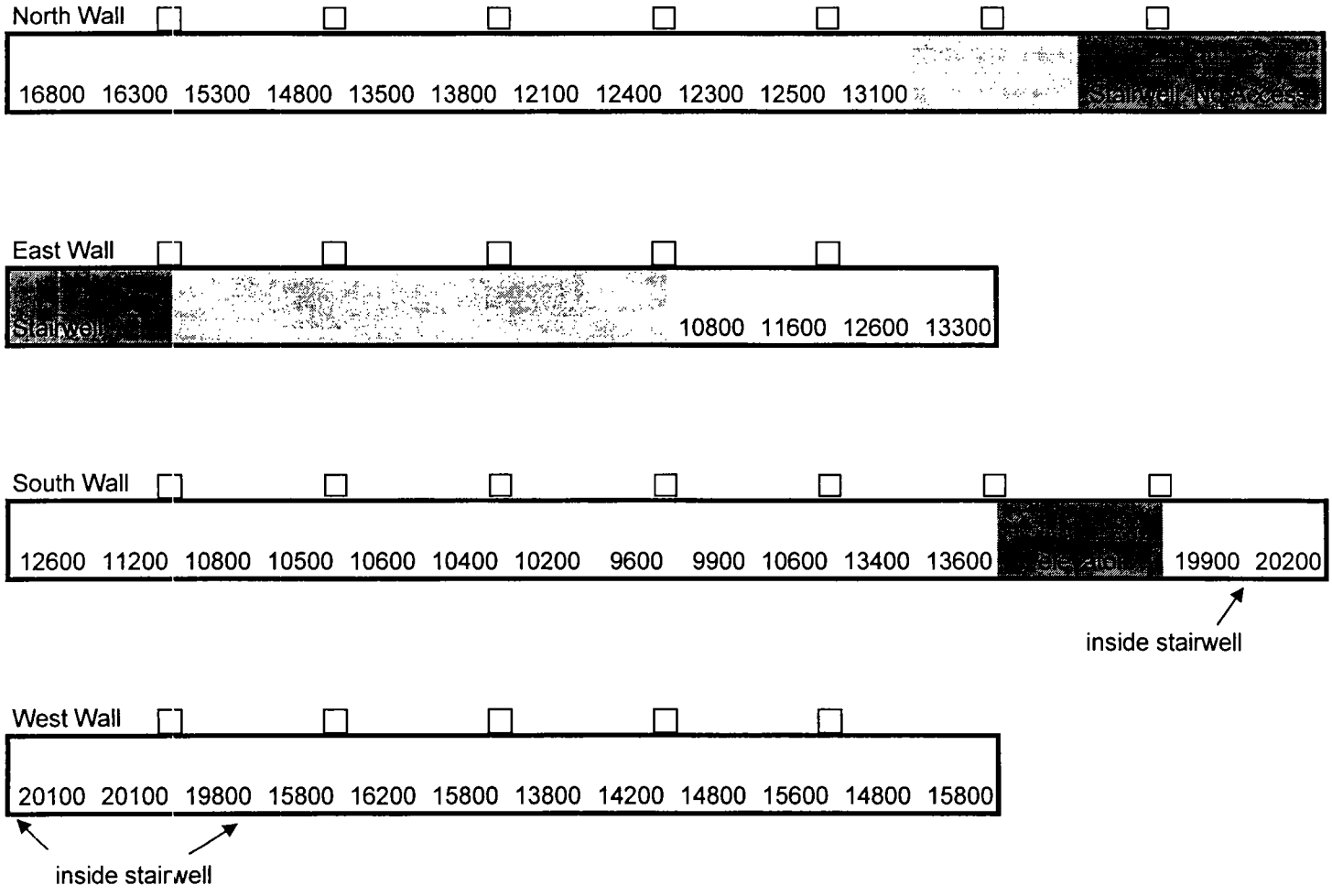
= Danger: Inaccessable Area

Note: Each wall count is recorded as if you are facing the direction of the wall, left to right
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)
All Results in Counts Per Minute (CPM)

GeoSyntec Consultants
160 E. Illinois Street Survey

February 16 - 17, 2005
Glenn Huber & Tim O'Brien

6th Floor Walls



= Danger: Inaccessable Area

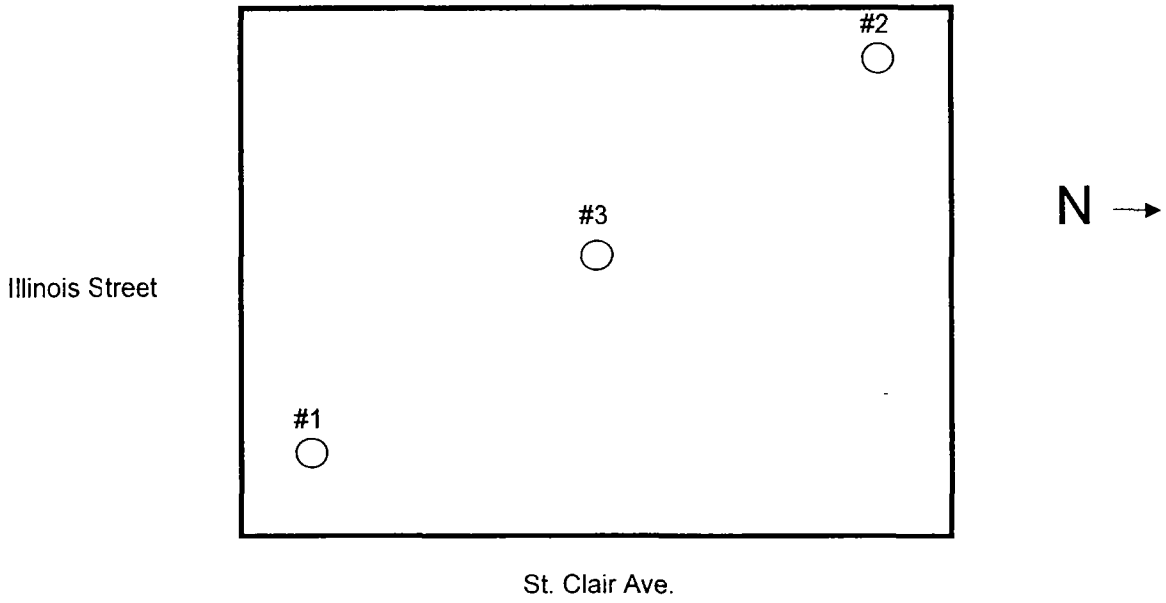
Note: Each wall count is recorded as if you are facing the direction of the wall, left to right
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" Nal Probe (SN 134542 & SN 127242)
All Results in Counts Per Minute (CPM)

Appendix B

Soil Boring Survey Results

Radiation Surveys of Test Drillings

160 E. Illinois Street - Chicago, IL



Hole #1	4/13/05
0 - 2'	9500 cpm
2' - 4'	8300 cpm
4' - 6'	8000 cpm
6' - 8'	7800 cpm

Hole #2	4/19/05
0 - 2'	8200 cpm
2' - 4'	7900 cpm
4' - 6'	7500 cpm
6' - 8'	7500 cpm

Hole #3	4/22/05
0 - 2'	10,900 cpm
2' - 4'	8800 cpm
4' - 6'	8200 cpm
6' - 8'	8000 cpm

Note: Above noted count rates are the maximum recorded for samples recovered or cuttings returned to the ground surface from the specified depths. These values include both the samples obtained by STS and the spoils that came out during the drilling process. Count rates at the ground surface were all less than 11,000 cpm in the vicinity of the holes. This higher count is likely due to crushed brick material currently at the ground surface. All distances noted are below the basement slab, not street level. Surveys were performed several feet into natural fill (sand).

Surveyed By: Glenn Huber

Instrument ID: Ludlum Model 2221 (serial no. 134542) w/ attached 2"x2" unshielded NaI probe

7 2 pCi/g Action Level = 18,500 cpm

Appendix C

Basement Slab and Sub-Slab Soil Survey Results

GeoSyntec Consultants
160 E. Illinois Street Survey

4/26/05 -5/2/05
Glenn Huber

Basement Slab

St Clair Ave.

11.2	10.8	10.5	10.9	11.1	10.4	9.7	9.9	10.1	10.6	10.3	9.2
9.9	10.6□	10.3	10.6□	10.7	11.1□	10.3	10.6□	9.8	9.9□	10.1	9.7
11.0	10.7	10.4	10.5	11.1	10.8	10.2	10.1	9.6	9.8	9.5	9.6
11.3	10.8□	10.7	10.0□	10.8	9.9□	10.3	9.7□	10.3	9.5□	10.4	10.2
10.7	9.9	9.6	10.2	10.8	11.2	10.7	9.9	9.8	9.5	9.8	9.5
11.1	10.3□	10.5	10.4□	11.4	10.5□	11.3	11.4□	10.0	9.6□	9.5	9.4
9.8	11.0	11.3	11.7	12.3	12.0	12.4	12.2	10.8	11.0	11.2	10.3
10.2	10.9□	11.0	12.0□	11.9	12.1□	12.5	10.9□	10.4	10.5□	11.4	9.7
10.9	11.2	11.6	11.8	12.1	11.7	11.4	10.7	11.0	10.5	10.5	9.8
11.4	11.8□	11.4	12.1□	12.6	11.8□	11.1	10.3□	10.4	10.6□	10.8	10.6
11.3	12.0	11.7	12.4	11.2	11.4	10.9	11.4	9.8	10.4	11.3	11.2
11.2	11.7□	11.8	12.6□	11.3	11.9□	11.8	11.0□	10.4	10.1□	10.7	11.0
11.3	11.9	13.0	10.6	11.2	11.8	10.6	12.1	9.5	11.3	11.8	13.0
12.2	12.1□	12.7	10.9□	10.8	10.4□	10.5	10.4□	9.6	9.8□	10.6	12.4
10.8	9.4	9.1	9.9	10.2	8.9	9.7	9.6	9.7	9.6	10.8	11.4
12.1	12.3	8.8	9.4	9.1	9.2	9.2	7.8	8.2	8.9	9.8	11.8

← N

Illinois St.

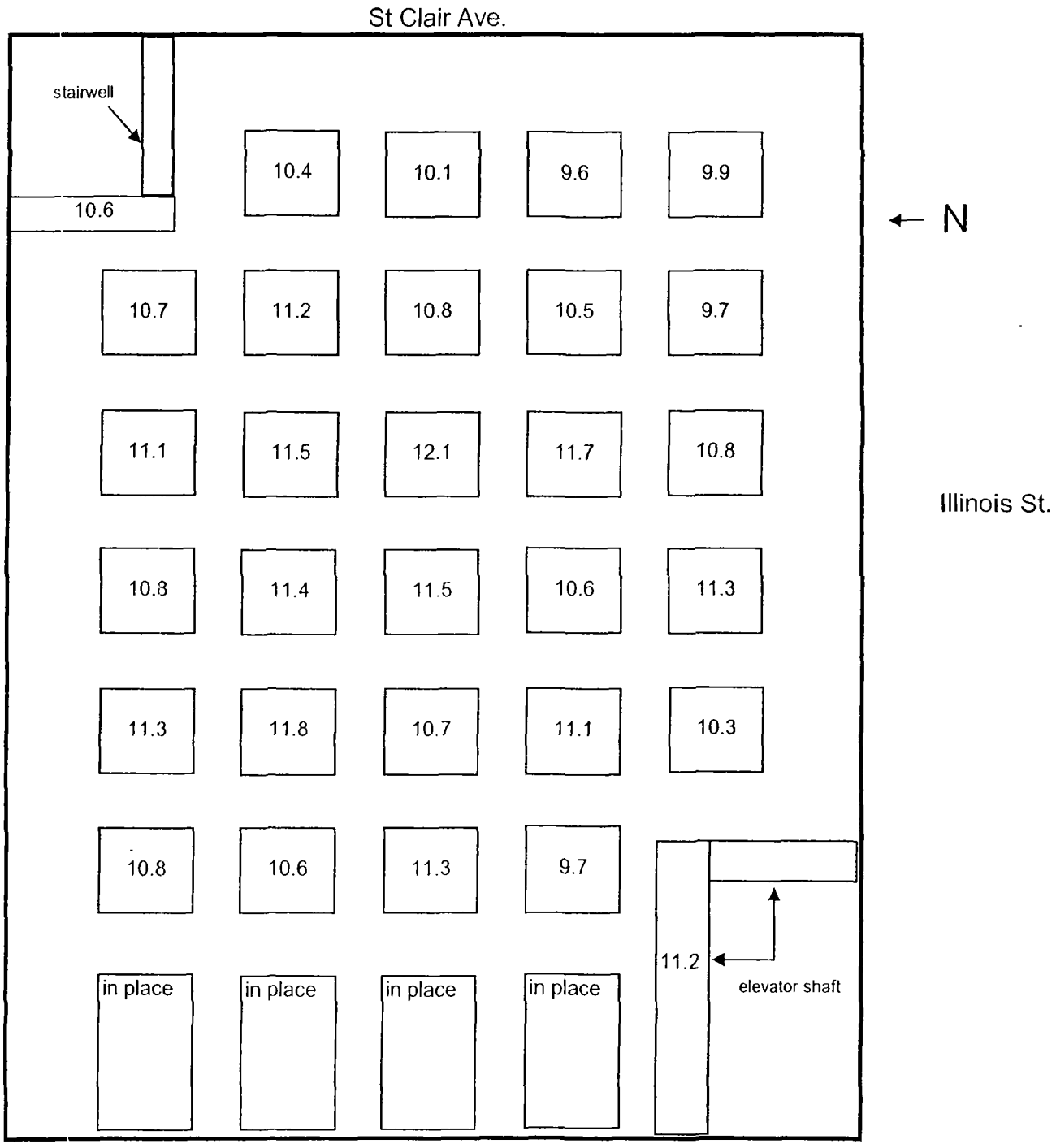
Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" NaI Probe (SN 134542 & SN 127242)

All Results in 1000 Counts Per Minute (KCPM) 1000 x cpm

GeoSyntec Consultants
160 E. Illinois Street Survey

4/26/05-5/2/05
Glenn Huber

Concrete Footings Below Slab



Surveyed ID: Ludlum Model 2221 Scaler Ratemeter w/ 2" NaI Probe (SN 134542 & SN 127242)

All Results in 1000 Counts Per Minute (KCPM) 1000 x cpm

Appendix D

Air Monitoring Results

Minimum Detectable Concentration Calculation

Staplex TFIA High Volume Air Samples analyzed on Ludlum 43-10 Alpha Counter

$$MDC = \frac{2.71}{n\,E\,F\,K\,T_s\,T_g\,cf} + \frac{3.29\;R_b\;\sqrt{\frac{1}{T_b} + \frac{1}{T_g}}}{n^{1/2}\,E\,F\,K\,T_s\,cf}$$

NUREG 1400 *Air Sampling in the Workplace* Appendix A (eq A.17)

n = number of sampling intervals
E = fractional filter efficiency
F = airlow rate through the sampler in cm^3 / min
K= counting efficiency in cpm /μCi
T_s= duration of sample collection in min
T_g = gross counting time
T_b = background counting time
R_n = net count rate in cpm
R_b = background count rate in cpm
C = concentration of radioactive material in the air in $\mu Ci/cm^3$
Cf = count vs sample conversion **this is not part of NUREG 1400, however analysis volume must be taken into account

n = 5 days of sampling minimum per week
E= 0.7 (referred to as filter retention factor on air sampling form)
F= 1.13 x 10^6 cm^3/min (or ml/min)
$40ft^3$/min x 28.316 liters/ft^3 x 1000ml/l = 1.13 x 10^6 ml/min
K=699300
0.315 count / disintegration x 2.22 x10^6 dis/μCi = 699300 cpm/μCi
T_s= 480 min
Based on a minimum of 8 hours per day
T_g= 30 min
T_b= 600 min
Cf = 0.035
8"x 10" original filter size = 80 $inches^2$
0.3 inch border is covered by sampler plate and not sampled = 10.8 $inches^2$
filter cutout = πr^2 = $(0.875")^2(3.14)$ = 2.41 inches"
actual sample area = 80 $inches^2$ – 10.8 $inches^2$ = 69.2 $inches^2$
sample analyzed vs. sample collected ratio = 2.41 / 69.2 = 0.035
r_b = 0.58 cpm , based on 600 min background count on 4/10-4/11/00

$$MDC = \frac{2.71}{(5)(0.7)(1.13E6)(699300)(0.035)(480)(30)} + \frac{3.29\;(0.58)\;\sqrt{\frac{1}{(600)} + \frac{1}{(30)}}}{(2.24)(0.7)(1.13E6)(699300)(0.035)(480)(30)}$$

= 2.69 x10^{-15} μCi/ ml (gross alpha weekly MDC)
= 5.39 x10^{-16} μCi/ ml (gross alpha ÷ 5, for Th-232)

Both MDC's are below the most limiting effluent release criteria, specified in Kerr McGee Air Monitoring Procedure SOP-212 (Th-232 = 4 x10^{-15} μCi/ml)

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis)

160 E. Illinois St. - Building Demolition ***Chicago, IL***

Report No. 1 **Monday February 21, 2005 - Friday February 25, 2005**

							day after analysis					four day analysis					% of Limit
Sample ID	date sampled	start time	stop time	total time sampled	cubic ft/ min (CFM)	sample volume analyzed	date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	4.00E-15 uCi/ml
16001N	2/21/2005	8:02am	4:41pm	519	45	2.31E+07	2/22/2005	16	12	0.13333	2.38E-15	2/25/2005	12	12	0	0.00E+00	0.00%
16001ST	2/21/2005	7:56am	4:48pm	532	45	2.37E+07	2/22/2005	22	12	0.33333	5.81E-15	2/25/2005	11	12	0	0.00E+00	0.00%
16001SB	2/21/2005	7:58am	4:46pm	528	41	2.15E+07	2/22/2005	29	12	0.56667	1.09E-14	2/25/2005	13	12	0.033	6.43E-16	16.06%
16001E	2/21/2005	8:01am	4:43pm	522	45	2.33E+07	2/22/2005	28	12	0.53333	9.48E-15	2/25/2005	10	12	0	0.00E+00	0.00%
16002N	2/22/2005	7:48am	4:44pm	536	47	2.50E+07	2/23/2005	21	10	0.36667	6.07E-15	2/28/2005	10	12	0	0.00E+00	0.00%
16002ST	2/22/2005	7:42am	4:50pm	548	47	2.55E+07	2/23/2005	22	10	0.4	6.48E-15	2/28/2005	12	12	0	0.00E+00	0.00%
16002SB	2/22/2005	7:40am	4:52pm	552	42	2.30E+07	2/23/2005	29	10	0.63333	1.14E-14	2/28/2005	11	12	0	0.00E+00	0.00%
16002E	2/22/2005	7:46am	4:46pm	540	44	2.35E+07	2/23/2005	31	10	0.7	1.23E-14	2/28/2005	12	12	0	0.00E+00	0.00%
16003N	2/23/2005	7:59am	4:20pm	501	45	2.23E+07	2/24/2005	14	11	0.1	1.85E-15	2/28/2005	11	12	0	0.00E+00	0.00%
16003ST	2/23/2005	7:44am	4:24pm	520	46	2.37E+07	2/24/2005	16	11	0.16667	2.91E-15	2/28/2005	13	12	0.033	5.82E-16	14.54%
16003SB	2/23/2005	7:42am	4:25pm	523	43	2.23E+07	2/24/2005	19	11	0.26667	4.95E-15	2/28/2005	12	12	0	0.00E+00	0.00%
16003E	2/23/2005	7:58am	4:18pm	500	50	2.48E+07	2/24/2005	12	11	0.03333	5.56E-16	2/28/2005	9	12	0	0.00E+00	0.00%
16004N	2/24/2005	7:57am	4:08pm	491	47	2.29E+07	2/25/2005	17	12	0.16667	3.01E-15	3/1/2005	13	11	0.067	1.21E-15	30.14%
16004ST	2/24/2005	8:01am	4:13pm	492	47	2.29E+07	2/25/2005	16	12	0.13333	2.41E-15	3/1/2005	10	11	0	0.00E+00	0.00%
16004SB	2/24/2005	7:59am	4:14pm	495	50	2.45E+07	2/25/2005	22	12	0.33333	5.62E-15	3/1/2005	11	11	0	0.00E+00	0.00%
16004E	2/24/2005	7:56am	4:10pm	494	44	2.15E+07	2/25/2005	16	12	0.13333	2.56E-15	3/1/2005	12	11	0.033	6.40E-16	16.00%
16005N	2/25/2005	8:01am	4:01pm	480	45	2.14E+07	2/28/2005	13	12	0.03333	6.44E-16	3/2/2005	11	11	0	0.00E+00	0.00%
16005ST	2/25/2005	7:56am	4:08pm	492	45	2.19E+07	2/28/2005	14	12	0.06667	1.26E-15	3/2/2005	13	11	0.067	1.26E-15	31.42%
16005SB	2/25/2005	7:55am	4:09pm	494	46	2.25E+07	2/28/2005	12	12	0	0.00E+00	3/2/2005	10	11	0	0.00E+00	0.00%
16005E	2/25/2005	8:00am	4:02pm	482	48	2.29E+07	2/28/2005	11	12	0	0.00E+00	3/2/2005	10	11	0	0.00E+00	0.00%

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis)

160 E. Illinois St. - Building Demolition ***Chicago, IL***

Report No. 2 **Monday February 28, 2005 - Friday March 4, 2005**

							day after analysis					four day analysis					% of Limit
Sample ID	date sampled	start time	stop time	total time sampled	cubic ft/ min (CFM)	sample volume analyzed	date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	4.00E-15 uCi/ml
16006N	2/28/2005	9:20am	3:58pm	398	46	1.81E+07	3/1/2005	14	11	0.1	2.28E-15	3/4/2005	11	11	0	0.00E+00	0.00%
16006ST	2/28/2005	9:25am	4:01pm	396	46	1.81E+07	3/1/2005	18	11	0.23333	5.35E-15	3/4/2005	12	11	0.033	7.64E-16	19.09%
16006SB	2/28/2005	9:24am	4:03pm	399	46	1.82E+07	3/1/2005	21	11	0.33333	7.58E-15	3/4/2005	10	11	0	0.00E+00	0.00%
16006E	2/28/2005	9:18am	4:00pm	402	44	1.75E+07	3/1/2005	16	11	0.16667	3.93E-15	3/4/2005	11	11	0	0.00E+00	0.00%
16007N	3/1/2005	7:59am	3:50pm	471	48	2.24E+07	3/2/2005	18	11	0.23333	4.31E-15	3/7/2005	12	13	0	0.00E+00	0.00%
16007ST	3/1/2005	8:04am	3:54pm	470	47	2.19E+07	3/2/2005	22	11	0.36667	6.93E-15	3/7/2005	9	13	0	0.00E+00	0.00%
16007SB	3/1/2005	8:02am	3:55pm	473	43	2.02E+07	3/2/2005	25	11	0.46667	9.58E-15	3/7/2005	13	13	0	0.00E+00	0.00%
16007E	3/1/2005	7:58am	3:52pm	474	45	2.11E+07	3/2/2005	17	11	0.2	3.91E-15	3/7/2005	13	13	0	0.00E+00	0.00%
16008N	3/2/2005	7:49am	4:10pm	501	43	2.14E+07	3/3/2005	16	10	0.2	3.87E-15	3/7/2005	12	13	0	0.00E+00	0.00%
16008ST	3/2/2005	7:42am	4:04pm	502	40	1.99E+07	3/3/2005	15	10	0.16667	3.46E-15	3/7/2005	13	13	0	0.00E+00	0.00%
16008SB	3/2/2005	7:40am	4:05pm	505	41	2.05E+07	3/3/2005	26	10	0.53333	1.07E-14	3/7/2005	13	13	0	0.00E+00	0.00%
16008E	3/2/2005	7:48am	4:12pm	504	43	2.15E+07	3/3/2005	22	10	0.4	7.70E-15	3/7/2005	14	13	0.033	6.42E-16	16.05%
16009N	3/3/2005	8:03am	4:08pm	485	42	2.02E+07	3/4/2005	15	11	0.13333	2.73E-15	3/8/2005	11	12	0	0.00E+00	0.00%
16009ST	3/3/2005	7:59am	4:02pm	483	43	2.06E+07	3/4/2005	17	11	0.2	4.02E-15	3/8/2005	13	12	0.033	6.70E-16	16.74%
16009SB	3/3/2005	7:58am	4:04pm	486	45	2.17E+07	3/4/2005	20	11	0.3	5.72E-15	3/8/2005	10	12	0	0.00E+00	0.00%
16009E	3/3/2005	8:02am	4:09pm	487	42	2.03E+07	3/4/2005	17	11	0.2	4.08E-15	3/8/2005	12	12	0	0.00E+00	0.00%
16010N	3/4/2005	7:51am	3:12pm	441	43	1.88E+07	3/7/2005	15	13	0.06667	1.47E-15	3/9/2005	12	12	0	0.00E+00	0.00%
16010ST	3/4/2005	7:54am	OFF	N/A	N/A	N/A			See Below					See Below			N/A
16010SB	3/4/2005	7:53am	3:18pm	445	43	1.90E+07	3/7/2005	13	13	0	0.00E+00	3/9/2005	12	12	0	0.00E+00	0.00%
16010E	3/4/2005	7:50am	3:13pm	443	46	2.02E+07	3/7/2005	15	13	0.06667	1.37E-15	3/9/2005	11	12	0	0.00E+00	0.00%

Note: On 3/4/05 the South Top Monitor blew a fuse sometime during the day and shut down. Total sample time unknown = no valid sample collected. GAH

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis)

160 E. Illinois St. - Building Demolition *Chicago, IL*

Report No. 3 **Monday March 7, 2005 - Friday March 11, 2005**

Sample ID	date sampled	start time	stop time	total time sampled	cubic ft/ min (CFM)	sample volume analyzed	day after analysis: date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	four day analysis: date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	% of Limit 4.00E-15 uCi/ml
16011N	3/7/2005	7:57am	4:01pm	484	46	2.21E+07	3/8/2005	52	12	1.33333	2.50E-14	3/11/2005	11	11	0	0.00E+00	0.00%
16011ST	3/7/2005	7:54am	4:07pm	493	47	2.30E+07	3/8/2005	55	12	1.43333	2.58E-14	3/11/2005	10	11	0	0.00E+00	0.00%
16011SB	3/7/2005	7:52am	4:08pm	496	44	2.16E+07	3/8/2005	50	12	1.26667	2.42E-14	3/11/2005	12	11	0.033	6.37E-16	15.94%
16011E	3/7/2005	7:56am	4:03pm	487	45	2.17E+07	3/8/2005	62	12	1.66667	3.17E-14	3/11/2005	9	11	0	0.00E+00	0.00%

Nc Demolition or Air Sampling Performed on:
Tuesday 3/8/05
Wednesday 3/9/05
Thursday 3/10/05
Friday 3/11/05

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis)

160 E. Illinois St. - Building Demolition ***Chicago, IL***

Report No. 4 **Monday March 14, 2005 - Friday March 18, 2005**

Sample ID	date sampled	start time	stop time	total time sampled	cubic ft/ min (CFM)	sample volume analyzed	day after analysis					four day analysis					% of Limit 4.00E-15 uCi/ml
							date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	
16012N	3/14/2004	7:53am	4:40pm	527	40	2.09E+07	3/15/2005	89	10	2.63333	5.21E-14	3/18/2005	11	11	0	0.00E+00	0.00%
16012ST	3/14/2005	8:00am	4:44pm	524	40	2.08E+07	3/15/2005	58	10	1.6	3.19E-14	3/18/2005	10	11	0	0.00E+00	0.00%
16012SB	3/14/2005	7:58am	4:46pm	528	44	2.30E+07	3/15/2005	60	10	1.66667	2.99E-14	3/18/2005	12	11	0.033	5.99E-16	14.97%
16012E	3/14/2005	7:51am	4:41pm	530	43	2.26E+07	3/15/2005	53	10	1.43333	2.62E-14	3/18/2005	10	11	0	0.00E+00	0.00%
16013N	3/15/2005	8:03am	4:28pm	505	42	2.10E+07	3/16/2005	27	12	0.5	9.84E-15	3/21/2005	13	12	0.033	6.56E-16	16.40%
16013ST	3/15/2005	8:08am	4:38pm	510	43	2.17E+07	3/16/2005	36	12	0.8	1.52E-14	3/21/2005	11	12	0	0.00E+00	0.00%
16013SB	3/15/2005	8:05am	4:35pm	510	45	2.27E+07	3/16/2005	41	12	0.96667	1.76E-14	3/21/2005	10	12	0	0.00E+00	0.00%
16013E	3/15/2005	8:01am	4:30pm	509	46	2.32E+07	3/16/2005	29	12	0.56667	1.01E-14	3/21/2005	13	12	0.033	5.94E-16	14.85%
16014N	3/16/2005	8:03am	4:30pm	508	44	2.22E+07	3/17/2005	132	10	4.06667	7.59E-14	3/21/2005	11	12	0	0.00E+00	0.00%
16014ST	3/16/2005	8:07am	4:36pm	509	47	2.37E+07	3/17/2005	140	10	4.33333	7.56E-14	3/21/2005	12	12	0	0.00E+00	0.00%
16014SB	3/16/2005	8:05am	4:39pm	514	42	2.14E+07	3/17/2005	118	10	3.6	6.96E-14	3/21/2005	14	12	0.067	1.29E-15	32.22%
16014E	3/16/2005	8:01am	4:32pm	511	42	2.13E+07	3/17/2005	84	10	2.46667	4.80E-14	3/21/2005	13	12	0.033	6.48E-16	16.20%
16015N	3/17/2005	8:05am	4:12pm	487	45	2.17E+07	3/18/2005	16	11	0.16667	3.17E-15	3/22/2005	12	11	0.033	6.35E-16	15.87%
16015ST	3/17/2005	8:09am	4:18pm	489	44	2.13E+07	3/18/2005	18	11	0.23333	4.53E-15	3/22/2005	11	11	0	0.00E+00	0.00%
16015SB	3/17/2005	8:07am	4:20pm	493	45	2.20E+07	3/18/2005	21	11	0.33333	6.27E-15	3/22/2005	9	11	0	0.00E+00	0.00%
16015E	3/17/2005	8:04am	4:14pm	490	40	1.94E+07	3/18/2005	14	11	0.1	2.13E-15	3/22/2005	11	11	0	0.00E+00	0.00%
16016N	3/18/2005	7:48am	3:12pm	444	44	1.94E+07	3/21/2005	15	12	0.1	2.14E-15	3/23/2005	9	11	0	0.00E+00	0.00%
16016ST	3/18/2005	7:50am	3:18pm	448	45	2.00E+07	3/21/2005	11	12	0	0.00E+00	3/23/2005	11	11	0	0.00E+00	0.00%
16016SB	3/18/2005	7:53am	3:20pm	447	41	1.82E+07	3/21/2005	14	12	0.06667	1.52E-15	3/23/2005	13	11	0.067	1.52E-15	37.95%
16016E	3/18/2005	7:46am	3:14pm	448	41	1.82E+07	3/21/2005	12	12	0	0.00E+00	3/23/2005	10	11	0	0.00E+00	0.00%

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis)

160 E. Illinois St. - Building Demolition ***Chicago, IL***

Report No. 5 **Monday March 21, 2005 - Friday March 25, 2005**

Sample ID	date sampled	start time	stop time	total time sampled	cubic ft/ min (CFM)	sample volume analyzed	day after analysis					four day analysis					% of Limit 4.00E-15 uCi/ml
							date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	
16017N	3/21/2005	7:51am	4:22pm	511	43	2.18E+07	3/22/2005	18	11	0.23333	4.43E-15	3/25/2005	12	12	0	0.00E+00	0.00%
16017ST	3/21/2005	7:57am	4:25pm	508	44	2.22E+07	3/22/2005	16	11	0.16667	3.11E-15	3/25/2005	9	12	0	0.00E+00	0.00%
16017SB	3/21/2005	7:54am	4:27pm	513	44	2.24E+07	3/22/2005	16	11	0.16667	3.08E-15	3/25/2005	10	12	0	0.00E+00	0.00%
16017E	3/21/2005	7:50am	4:21pm	511	45	2.28E+07	3/22/2005	13	11	0.06667	1.21E-15	3/25/2005	12	12	0	0.00E+00	0.00%
16018N	3/22/2005	7:55am	4:28pm	513	43	2.19E+07	3/23/2005	15	11	0.13333	2.52E-15	3/28/2005	10	10	0	0.00E+00	0.00%
16018ST	3/22/2005	8:02am	4:17pm	495	45	2.21E+07	3/23/2005	16	11	0.16667	3.12E-15	3/28/2005	12	10	0.067	1.25E-15	31.23%
16018SB	3/22/2005	7:58am	4:19pm	501	44	2.18E+07	3/23/2005	22	11	0.36667	6.94E-15	3/28/2005	12	10	0.067	1.26E-15	31.55%
16018E	3/22/2005	7:54am	4:29pm	515	44	2.25E+07	3/23/2005	23	11	0.4	7.37E-15	3/28/2005	10	10	0	0.00E+00	0.00%
16019N	3/23/2005	7:58am	4:21pm	503	42	2.09E+07	3/24/2005	18	13	0.16667	3.29E-15	3/28/2005	12	10	0.067	1.32E-15	32.92%
16019ST	3/23/2005	7:53am	4:15pm	502	46	2.29E+07	3/24/2005	22	13	0.3	5.42E-15	3/28/2005	9	10	0	0.00E+00	0.00%
16019SB	3/23/2005	7:50am	4:17pm	507	45	2.26E+07	3/24/2005	24	13	0.36667	6.71E-15	3/28/2005	11	10	0.033	6.10E-16	15.24%
16019E	3/23/2005	7:57am	4:23pm	506	42	2.11E+07	3/24/2005	19	13	0.2	3.93E-15	3/28/2005	10	10	0	0.00E+00	0.00%
16020N	3/24/2005	7:57am	4:06pm	489	44	2.13E+07	3/25/2005	15	12	0.1	1.94E-15	3/29/2005	10	12	0	0.00E+00	0.00%
16020ST	3/24/2005	7:54am	4:17pm	503	44	2.19E+07	3/25/2005	16	12	0.13333	2.51E-15	3/29/2005	12	12	0	0.00E+00	0.00%
16020SB	3/24/2005	7:51am	4:11pm	500	42	2.08E+07	3/25/2005	19	12	0.23333	4.64E-15	3/29/2005	13	12	0.033	6.62E-16	16.56%
16020E	3/24/2005	7:56am	4:07pm	491	44	2.14E+07	3/25/2005	14	12	0.06667	1.29E-15	3/29/2005	10	12	0	0.00E+00	0.00%

No Air Monitoring on 3/25/05 due to rain and snow

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis)

160 E. Illinois St. - Building Demolition ***Chicago, IL***

Report No. 6 **Monday March 28, 2005 - Friday April 1, 2005**

Sample ID	date sampled	start time	stop time	total time sampled	cubic ft/ min (CFM)	sample volume analyzed	day after analysis					four day analysis					% of Limit 4.00E-15 uCi/ml
							date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	date analyzed	gross counts	bkg counts	net cpm	Concentration in uCi/ml	
16021N	3/28/2005	7:44am	4:10pm	506	45	2.26E+07	3/29/2005	28	12	0.53333	9.77E-15	4/1/2005	12	11	0.033	6.11E-16	15.27%
16021ST	3/28/2005	7:51am	4:05pm	494	44	2.15E+07	3/29/2005	30	12	0.6	1.15E-14	4/1/2005	11	11	0	0.00E+00	0.00%
16021SB	3/28/2005	7:46am	4:06pm	500	44	2.18E+07	3/29/2005	37	12	0.83333	1.58E-14	4/1/2005	11	11	0	0.00E+00	0.00%
16021E	3/28/2005	7:42am	4:08pm	506	41	2.06E+07	3/29/2005	30	12	0.6	1.21E-14	4/1/2005	12	11	0.033	6.71E-16	16.76%
16022N	3/29/2005	8:06am	4:28pm	502	40	1.99E+07	3/31/2005	19	12	0.23333	4.85E-15	4/4/2005	12	12	0	0.00E+00	0.00%
16022ST	3/29/2005	8:12am	4:21pm	489	45	2.18E+07	3/31/2005	16	12	0.13333	2.53E-15	4/4/2005	9	12	0	0.00E+00	0.00%
16022SB	3/29/2005	8:09am	4:24pm	495	42	2.06E+07	3/31/2005	20	12	0.26667	5.35E-15	4/4/2005	11	12	0	0.00E+00	0.00%
16022E	3/29/2005	8:05am	4:29pm	504	40	2.00E+07	3/31/2005	15	12	0.1	2.07E-15	4/4/2005	12	12	0	0.00E+00	0.00%
16023N	3/30/2005	7:58am	4:08pm	490	45	2.19E+07	3/31/2005	57	12	1.5	2.84E-14	4/4/2005	10	12	0	0.00E+00	0.00%
16023ST	3/30/2005	7:53am	4:10pm	497	40	1.97E+07	3/31/2005	61	12	1.63333	3.43E-14	4/4/2005	11	12	0	0.00E+00	0.00%
16023SB	3/30/2005	7:50am	4:12pm	502	42	2.09E+07	3/31/2005	89	12	2.56667	5.08E-14	4/4/2005	13	12	0.033	6.60E-16	16.49%
16023E	3/30/2005	7:57am	4:16pm	499	42	2.08E+07	3/31/2005	72	12	2	3.98E-14	4/4/2005	14	12	0.067	1.33E-15	33.19%
16024N	3/31/2005	7:51am	4:14pm	503	42	2.09E+07	4/1/2005	60	11	1.63333	3.23E-14	4/5/2005	9	10	0	0.00E+00	0.00%
16024ST	3/31/2005	7:48am	4:18pm	510	44	2.22E+07	4/1/2005	55	11	1.46667	2.73E-14	4/5/2005	11	10	0.033	6.20E-16	15.50%
16024SB	3/31/2005	7:46am	4:20pm	514	40	2.04E+07	4/1/2005	41	11	1	2.03E-14	4/5/2005	10	10	0	0.00E+00	0.00%
16024E	3/31/2005	7:52am	4:12pm	500	45	2.23E+07	4/1/2005	32	11	0.7	1.30E-14	4/5/2005	12	10	0.067	1.24E-15	30.91%
16025N	4/1/2005	7:51am	3:29pm	453	45	2.02E+07	4/4/2005	14	12	0.06667	1.36E-15	4/6/2005	10	11	0	0.00E+00	0.00%
16025ST	4/1/2005	7:57am	3:18pm	441	45	1.97E+07	4/4/2005	11	12	0	0.00E+00	4/6/2005	9	11	0	0.00E+00	0.00%
16025SB	4/1/2005	7:54am	3:21pm	447	44	1.95E+07	4/4/2005	12	12	0	0.00E+00	4/6/2005	12	11	0.033	7.07E-16	17.68%
16025E	4/1/2005	7:50am	3:26pm	456	44	1.99E+07	4/4/2005	15	12	0.1	2.08E-15	4/6/2005	11	11	0	0.00E+00	0.00%

Note: Air samples collected on 3/29/05 were not analyzed until 3/31/05 (Day-After Count). Glenn Huber was not onsite on 3/30/05 to perform analysis. Joel Ahrweiler (SAHCI HP Technician) collected air samples that day.

Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

160 E. Illinois St. - Building Demolition *Chicago, IL*

North Monitor **Report #1 2/21/05 - 2/25/05** **(High Volume)**

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
2/21/2005	519	0.00E+00	0.00E+00	
2/22/2005	536	0.00E+00	0.00E+00	
2/23/2005	501	0.00E+00	0.00E+00	
2/24/2005	491	1.21E-15	5.94E-13	
2/25/2005	480	0.00E+00	0.00E+00	
	2527	1.21E-15	5.94E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly Effluent Concentration (North) = 2.35E-16 uCi/ml

Percentage of Release Limit of = 5.88%

4E-15uCi/ml

South (Top) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
2/21/2005	532	0.00E+00	0.00E+00	
2/22/2005	548	0.00E+00	0.00E+00	
2/23/2005	520	5.82E-16	3.03E-13	
2/24/2005	492	0.00E+00	0.00E+00	
2/25/2005	492	1.26E-15	6.20E-13	
	2584	1.84E-15	9.23E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly Effluent Concentration (South) = 3.57E-16 uCi/ml

Percentage of Release Limit of = 8.93%

4E-15uCi/ml

South (Bottom) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
2/21/2005	528	6.43E-16	3.40E-13	
2/22/2005	552	0.00E+00	0.00E+00	
2/23/2005	523	0.00E+00	0.00E+00	
2/24/2005	495	0.00E+00	0.00E+00	
2/25/2005	494	0.00E+00	0.00E+00	
	2592	6.43E-16	3.40E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly Effluent Concentration (East) = 1.31E-16 uCi/ml

Percentage of Release Limit of = 3.27%

4E-15uCi/ml

East Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
2/21/2005	522	0.00E+00	0.00E+00	
2/22/2005	540	0.00E+00	0.00E+00	
2/23/2005	500	0.00E+00	0.00E+00	
2/24/2005	494	6.40E-16	3.16E-13	
2/25/2005	482	0.00E+00	0.00E+00	
	2538	6.40E-16	3.16E-13	

$$C_{avg} = \frac{\Sigma T_s, C_i}{\Sigma T_s}$$

Eq A.9 NUREG 1400

Time Weighted Weekly	
Effluent Concentration (West) =	**1.25E-16 uCi/ml**
Percentage of Release Limit of =	*3.11%*

Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

160 E. Illinois St. - Building Demolition ***Chicago, IL***

North Monitor **Report #2 2/28/05 - 3/4/05** **(High Volume)**

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
2/28/2005	398	0.00E+00	0.00E+00	
3/1/2005	471	0.00E+00	0.00E+00	
3/2/2005	501	0.00E+00	0.00E+00	
3/3/2005	485	0.00E+00	0.00E+00	
3/4/2005	441	0.00E+00	0.00E+00	
	2296	0.00E+00	0.00E+00	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (North) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%
4E-15uCi/ml

South (Top) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
2/28/2005	396	7.64E-16	3.03E-13	
3/1/2005	470	0.00E+00	0.00E+00	
3/2/2005	502	0.00E+00	0.00E+00	
3/3/2005	483	6.70E-16	3.24E-13	
3/4/2005	0	0.00E+00	0.00E+00	No Sample Collected
	1851	1.43E-15	6.26E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (South) = 3.38E-16 uCi/ml

Percentage of Release Limit of = 8.46%
4E-15uCi/ml

South (Bottom) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
2/28/2005	399	0.00E+00	0.00E+00	
3/1/2005	473	0.00E+00	0.00E+00	
3/2/2005	505	0.00E+00	0.00E+00	
3/3/2005	486	0.00E+00	0.00E+00	
3/4/2005	445	0.00E+00	0.00E+00	
	2308	0.00E+00	0.00E+00	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (East) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%
4E-15uCi/ml

East Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
2/28/2005	402	0.00E+00	0.00E+00	
3/1/2005	474	0.00E+00	0.00E+00	
3/2/2005	504	6.42E-16	3.24E-13	
3/3/2005	487	0.00E+00	0.00E+00	
3/4/2005	443	0.00E+00	0.00E+00	
	2310	6.42E-16	3.24E-13	

$C_{avg} = \frac{\Sigma \bar{} _{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly	
Effluent Concentration (West) =	**1.40E-16 uCi/ml**
Percentage of Release Limit of =	*3.50%*

Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

160 E. Illinois St. - Building Demolition *Chicago, IL*

North Monitor **Report #3 3/7/05 - 3/11/05** **(High Volume)**

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/7/2005	484	0.00E+00	0.00E+00	
3/8/2005	0	0.00E+00	0.00E+00	No Demolition
3/9/2005	0	0.00E+00	0.00E+00	No Demolition
3/10/2005	0	0.00E+00	0.00E+00	No Demolition
3/11/2005	0	0.00E+00	0.00E+00	No Demolition
	484	0.00E+00	0.00E+00	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (North) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%
4E-15uCi/ml

South (Top) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/7/2005	493	0.00E+00	0.00E+00	
3/8/2005	0	0.00E+00	0.00E+00	No Demolition
3/9/2005	0	0.00E+00	0.00E+00	No Demolition
3/10/2005	0	0.00E+00	0.00E+00	No Demolition
3/11/2005	0	0.00E+00	0.00E+00	No Demolition
	493	0.00E+00	0.00E+00	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (South) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%
4E-15uCi/ml

South (Bottom) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/7/2005	496	6.37E-16	3.16E-13	
3/8/2005	0	0.00E+00	0.00E+00	No Demolition
3/9/2005	0	0.00E+00	0.00E+00	No Demolition
3/10/2005	0	0.00E+00	0.00E+00	No Demolition
3/11/2005	0	0.00E+00	0.00E+00	No Demolition
	496	6.37E-16	3.16E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (East) = 6.37E-16 uCi/ml

Percentage of Release Limit of = 15.93%
4E-15uCi/ml

East Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/7/2005	487	0.00E+00	0.00E+00	
3/8/2005	0	0.00E+00	0.00E+00	No Demolition
3/9/2005	0	0.00E+00	0.00E+00	No Demolition
3/10/2005	0	0.00E+00	0.00E+00	No Demolition
3/11/2005	0	0.00E+00	0.00E+00	No Demolition
	487	0.00E+00	0.00E+00	

$$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (West) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%

Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

160 E. Illinois St. - Building Demolition *Chicago, IL*

North Monitor **Report #4 3/14/05 - 3/18/05** **(High Volume)**

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/14/2005	527	0.00E+00	0.00E+00	
3/15/2005	505	6.56E-16	3.31E-13	
3/16/2005	508	0.00E+00	0.00E+00	
3/17/2005	487	6.35E-16	3.09E-13	
3/18/2005	444	0.00E+00	0.00E+00	
	2471	1.29E-15	6.41E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (North) = 2.59E-16 uCi/ml

Percentage of Release Limit of = 6.48%
4E-15uCi/ml

South (Top) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/14/2005	524	0.00E+00	0.00E+00	
3/15/2005	510	0.00E+00	0.00E+00	
3/16/2005	509	0.00E+00	0.00E+00	
3/17/2005	489	0.00E+00	0.00E+00	
3/18/2005	448	0.00E+00	0.00E+00	
	2480	0.00E+00	0.00E+00	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (South) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%
4E-15uCi/ml

South (Bottom) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/14/2005	528	5.99E-16	3.16E-13	
3/15/2005	510	0.00E+00	0.00E+00	
3/16/2005	514	1.29E-15	6.63E-13	
3/17/2005	493	0.00E+00	0.00E+00	
3/18/2005	447	1.52E-15	6.79E-13	
	2492	3.41E-15	1.66E-12	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (East) = 6.66E-16 uCi/ml

Percentage of Release Limit of = 16.64%
4E-15uCi/ml

East Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/14/2005	530	0.00E+00	0.00E+00	
3/15/2005	509	5.94E-16	3.02E-13	
3/16/2005	511	6.48E-16	3.31E-13	
3/17/2005	490	0.00E+00	0.00E+00	
3/18/2005	448	0.00E+00	0.00E+00	
	2488	1.24E-15	6.33E-13	

$$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (West) = 2.55E-16 uCi/ml

Percentage of Release Limit of = 6.37%

Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

160 E. Illinois St. - Building Demolition *Chicago, IL*

North Monitor **Report #5 3/21/05 - 3/25/05** **(High Volume)**

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/21/2005	511	0.00E+00	0.00E+00	
3/22/2005	513	0.00E+00	0.00E+00	
3/23/2005	503	1.32E-15	6.64E-13	
3/24/2005	489	0.00E+00	0.00E+00	
3/25/2005	0	0.00E+00	0.00E+00	No Air Monitoring = Weather
	2016	1.32E-15	6.64E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (North) = 3.29E-16 uCi/ml

Percentage of Release Limit of = 8.23%
4E-15uCi/ml

South (Top) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/21/2005	508	0.00E+00	0.00E+00	
3/22/2005	495	1.25E-15	6.19E-13	
3/23/2005	502	0.00E+00	0.00E+00	
3/24/2005	503	0.00E+00	0.00E+00	
3/25/2005	0	0.00E+00	0.00E+00	No Air Monitoring = Weather
	2008	1.25E-15	6.19E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (South) = 3.08E-16 uCi/ml

Percentage of Release Limit of = 7.70%
4E-15uCi/ml

South (Bottom) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/21/2005	513	0.00E+00	0.00E+00	
3/22/2005	501	1.26E-15	6.31E-13	
3/23/2005	507	6.10E-16	3.09E-13	
3/24/2005	500	6.62E-16	3.31E-13	
3/25/2005	0	0.00E+00	0.00E+00	No Air Monitoring = Weather
	2021	2.53E-15	1.27E-12	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (East) = 6.29E-16 uCi/ml

Percentage of Release Limit of = 15.73%
4E-15uCi/ml

East Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/21/2005	511	0.00E+00	0.00E+00	
3/22/2005	515	0.00E+00	0.00E+00	
3/23/2005	506	0.00E+00	0.00E+00	
3/24/2005	491	0.00E+00	0.00E+00	
3/25/2005	0	0.00E+00	0.00E+00	No Air Monitoring = Weather
	2023	0.00E+00	0.00E+00	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (West) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%

Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

160 E. Illinois St. - Building Demolition ***Chicago, IL***

North Monitor **Report #6 3/28/05 - 4/1/05** **(High Volume)**

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/28/2005	506	6.16E-16	3.12E-13	
3/29/2005	502	0.00E+00	0.00E+00	
3/30/2005	490	0.00E+00	0.00E+00	
3/31/2005	503	0.00E+00	0.00E+00	
4/1/2005	453	0.00E+00	0.00E+00	
	2454	6.16E-16	3.12E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (North) = 1.27E-16 uCi/ml

Percentage of Release Limit of = 3.18%
4E-15uCi/ml

South (Top) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/28/2005	494	0.00E+00	0.00E+00	
3/29/2005	489	0.00E+00	0.00E+00	
3/30/2005	497	0.00E+00	0.00E+00	
3/31/2005	510	6.20E-16	3.16E-13	
4/1/2005	441	0.00E+00	0.00E+00	
	2431	6.20E-16	3.16E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (South) = 1.30E-16 uCi/ml

Percentage of Release Limit of = 3.25%
4E-15uCi/ml

South (Bottom) Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/28/2005	500	0.00E+00	0.00E+00	
3/29/2005	495	0.00E+00	0.00E+00	
3/30/2005	502	6.60E-16	3.31E-13	
3/31/2005	514	0.00E+00	0.00E+00	
4/1/2005	447	7.07E-16	3.16E-13	
	2458	1.37E-15	6.47E-13	

$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (East) = 2.63E-16 uCi/ml

Percentage of Release Limit of = 6.58%
4E-15uCi/ml

East Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
3/28/2005	506	6.71E-16	3.40E-13	
3/29/2005	504	0.00E+00	0.00E+00	
3/30/2005	499	1.33E-15	6.64E-13	
3/31/2005	500	1.24E-15	6.20E-13	
4/1/2005	456	0.00E+00	0.00E+00	
	2465	3.24E-15	1.62E-12	

$$C_{avg} = \frac{\Sigma T_{s,i} C_i}{\Sigma T_s}$$

Eq A.9 NUREG 1400

Time Weighted Weekly
Effluent Concentration (West) = 6.58E-16 uCi/ml

Percentage of Release Limit of = 16.46%